

Engaged Participation versus Marginal Nonparticipation: A Stridently Sociocultural Approach to Achievement Motivation

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Abstract

In recent years, some educational researchers who study motivation have been expanding their focus to consider the broader contexts of motivated activity. Sociocultural views of knowing and learning are an influential force in this movement. In this article I apply the sociocultural assumption that knowledge resides in contexts of its use to the study of achievement motivation. I then use this "participatory" view of knowing and learning to define a stridently sociocultural approach to "motivation-in-context." I contrast conventional behavioral and cognitive assumptions about engagement with the sociocultural notion of engaged participation in the coconstruction of standards and values in learning contexts. I also explore the complex issue of reconciliation between individual and social activity that is critical to contextual considerations of motivation. The conventional aggregative approach to reconciliation is compared to the dialectical approach that follows from a sociocultural perspective. Finally, I discuss the potential value of this model and approach in terms of the new perspective they offer for persistent education questions, such as use of extrinsic rewards to motivate engagement in learning.

Motivation is an important construct for improving classroom teaching and learning. Twenty-two articles published in the *Elementary School Journal* since 1991 list motivation as a descriptor. Most articles advance a modern "cognitive" view of achievement motivation. This view is generally based on the distinction between intrinsically and extrinsically motivated activity. This distinction is typically defined in terms of learning/mastery goals or ego/performance goals. Motivation continues to be a major focus of educational researchers, and especially educational psychologists. Therefore, significant developments in motivation are relevant to a wide audience.

In recent years, educational researchers studying motivation have begun to focus more on the broader contexts in which individuals act. This trend is exemplified in a special issue of *Educational Psychologist* (Anderman & Anderman, 2000) and several edited volumes (McInernery & Van Etten, 2001; Urdan, 1999; Volet & Järvelä, 2001; Zimmerman & Schunk, 2001b). Although the general trend is clear, these recent collections reveal many different approaches. So far, there seems to be little consensus regarding the scope and characterization of "context" and its relationship to motivation.

One consensus that has emerged in the broadening of motivation research is the relevance of perspectives generally associated with the Soviet theorist Vygotsky (e.g., 1934/1978; Wertsch, 1991). To address educational challenges created by the Russian revolution, Vygotsky applied Engels's (1890/1972) theory of economic development and human evolution to psychological development. Various labels—socio-cultural, sociohistoric, socioconstructivist, and situative—this broad class of perspectives can be referred to collectively as social perspective theories (Wertsch, Minick, & Arnsperger, 1984). The index of one recent collection of efforts to broaden motivation theory (Volet & Järvelä, 2001) lists 46 entries starting with the term *socio*.

This enhanced consideration of social perspective theories in motivation is recent, with the exceptions of Sivan (1985) and McCaslin Rohrkemper (1989). This consideration echoes a similar one in cognition and instruction a decade ago. These views are generally consistent with the view recently advanced in a report by the U.S. National Research Council titled *How People Learn* (Bransford, Brown, & Cocking, 1999). These developments suggest that it is worthwhile for motivational theorists to consider the implications of social perspective theories. If so, it should also be worthwhile to begin exploring the motivational implications of nuances within these theo-

ries. That is my goal in this article. I take a strident perspective, exploring the motivational implications of what will be labeled sociocultural assumptions about knowing and learning, as they have been defined by situative cognitive theorists (e.g., Greeno et al., 1998).

Caveats

My strident approach in this article calls for several caveats. First, I explore the implication of a commonly overlooked assumption of sociocultural theory (that any participation in knowledgeable activity changes that knowledge). The fact that many scholars who reference sociocultural theory overlook this assumption suggests that the assumption is complex. Scholars who embrace this assumption appreciate the puzzlement of others who do not. As I will show, the assumption and its implications can be vexing (or irrelevant) when considered from other perspectives.

Second, although I provide an unabashedly partisan treatment in this article, I explore the implications of sociocultural perspectives that have been developed and defended by others. Readers interested in the more general merits of these ideas are invited to consult the resources cited throughout (e.g., Greeno et al., 1998; Lave & Wenger, 1991; Wenger, 1998; Wertsch, 1991). The debate between Anderson, Reder, and Simon (1996) and Greeno (1997; see also Anderson, Greeno, Reder, & Simon, 2000) is particularly useful for understanding the broader implications of sociocultural theories of cognition. Readers may also wish to consult other articles published in this journal that apply sociocultural perspectives (e.g., Anderson, Holland, & Palincsar, 1997; Au & Carroll, 1997; Bereiter, Scardamalia, Cassels, & Hewitt, 1997; Yowell & Smylie, 1999).

Third, this article illustrates Turner's (2001, p. 88) statement that situative theories of motivation are "less well developed than situative theories of learning." I advance a partial reconsideration of argu-

ments I have made previously (i.e., a reconsideration of the value of interactive approaches as outlined in Hickey [1997]). This article also reflects continuing evolution in the ideas of other researchers that it builds upon (i.e., a decreased focus on internalized speech in McCaslin & Good [1996a], relative to McCaslin Rohrkemper [1989]). I attempt to represent the current positions of others whose ideas are presumed to be similarly emergent. The theorists advancing assumptions underlying this article have previously advanced theories based on very different assumptions (e.g., Bereiter & Englemann [1966] vs. Bereiter [2002]; Greeno [1980] vs. Greeno et al. [1998]; Collins & Loftus [1975] vs. Collins [1999]).

Fourth, my characterization of different views of knowing and learning in this article follows directly from Greeno, Collins, and Resnick (1996) and Case (1996). It should be read as a response to the suggestion by Greeno et al. (1996, p. 40) that "other issues can also be informed by the kind of discussion we have begun to develop . . . perhaps organized by the same theoretical approach that we have used." Some will object to this trichotomy. Zimmerman (1993) has argued that such characterizations overstate differences between theories and ignore evolution within theories. Likewise, many will object to the labels I use here. Such concerns seem most relevant when the primary focus is developing coherent and parsimonious theories. This article reflects a newer approach to educational psychology that is more concerned with understanding and improving actual educational practice (i.e., Brown, 1992; Collins, 1999). As will be shown, a deliberately comparative perspective raises issues about the relationship between research and practice that might help motivation research affect current educational practice and policy.

Finally, some may find this article and sociocultural perspectives lacking in prescriptions for improving engagement and instruction. This is partly due to the im-

maturity of this perspective. But this perceived shortcoming is more due to the fact that sociocultural perspectives are relatively "agnostic" regarding specific principles of practice. Their implications for practice follow from the way they characterize knowing and learning. As such they are better used to understand and optimize the entire range of instructional and motivational practices, rather than to provide a framework for prescribing practices.

An Example from the Study of Group Learning

An example from another area of educational research helps illustrate what I am attempting to accomplish in this article. Webb and Palincsar's (1996) review of research on group learning processes includes a discussion of how that work was influenced by sociocultural theory. They reiterate Wertsch's (1991) claim that some educational scholars misunderstand Vygotsky's theory as an argument that mental functioning is derived "whole cloth" from participation in social interaction. This overlooks Vygotsky's more fundamental assumption that internalization of social processes requires participation in those processes (Bruner, 1984). Vygotsky argued that participation necessarily changes the processes in structure and function. In this dynamic, knowledge is neither located in the minds of knowledgeable individuals, nor "out there" in the environment waiting to be imprinted on the minds of learners. Instead, knowledge is "stretched across" the social and physical contexts of its use (Cole, 1991; Pea, 1985). Webb and Palincsar (1996) show that this more "participatory" characterization of social perspective theories fundamentally reshaped the study of group learning. This was reflected in the shift away from the study of cooperative learning methods (e.g., Johnson, Johnson, & Holubec, 1994; Slavin, 1990) that emphasized how group activity supported individuals' acquisition of skills and concepts. Instead, the study of group learning evolved toward

increased study of collaborative learning and the study of collaboration itself. This approach emphasized how group activity supports collective participation in social activity, focusing on the way that knowledge is coconstructed via collaboration (e.g., Forman, 1989; Saxe, 1992; more recently, Barron, 2000; Linn & Hsi, 2000). In short, Webb and Palincsar's (1996) review shows that theorists who embraced a more stridently sociocultural view of knowing and learning took the study of group learning processes in a new direction that many believe will better advance educational practice. In this article I attempt to do the same to the study of achievement motivation.

Background and Overview

My own efforts to understand motivation are rooted in contemporary theories of learning and instruction (e.g., Cognition and Technology Group at Vanderbilt, 1992, 1996, 1997; Hickey, Moore, & Pellegrino, 2001) rather than in prevailing motivation theory. As I will illustrate, social perspective origins matter. After my earlier attempt to clarify the relationship between social perspective theories and modern motivation research, I concluded that the relationship was "murky" (Hickey, 1997). Meanwhile, McCaslin and colleagues (i.e., McCaslin & Murdock, 1991; McCaslin & Good, 1996a, 1996b) advanced the notion of adaptive learning, and subsequently coregulated learning, as an explicitly Vygotskian alternative to self-regulated learning. More recent consideration (Hickey, 1999, 2001; Hickey & McCaslin, 2001; McCaslin & Hickey, 2001a, 2001b) has further clarified the core issues for a sociocultural theory of motivation. This has occurred in part because these more recent considerations took place within broader ongoing efforts to define a contextual model of motivation.

In this article I make three core arguments. First, the assumption that learners internalize knowledge via participation in social interaction has modest implications

for achievement motivation. Second, the assumption that such participation necessarily changes that knowledge has profound implications for achievement motivation. Third, if participation changes knowledge, participation in any knowledgeable activity (with or without actual collaboration) represents social interaction, with important implications for motivation. To support these arguments, I first discuss the worldviews and the fundamental assumptions about knowing and learning that underlie prior conceptions of student engagement and corresponding principles of motivation. I then outline a stridently sociocultural model of motivated engagement and contrast it with more conventional approaches. This model is perhaps best understood as further development of the ideas in Hickey (1997) and McCaslin's (McCaslin & Good, 1996a, 1996b) coregulated learning model, in light of the ideas advanced by contemporary situative/sociocultural theorists such as Greeno et al. (1998) and Wenger (1998). I then examine other motivational approaches within the social perspective umbrella and consider the implications of the range of approaches for understanding and improving engagement in school contexts. The most challenging and perhaps most significant idea to be explored along the way concerns theoretical reconciliation—the way differences between theories are reconciled. I show that a sociocultural view suggests important variation in the way differences are reconciled, compared with reconciliation that starts from other perspectives.

Competing Metatheories, Theories, Assumptions, and Principles

Central to understanding the evolution of theories are the metatheoretical models, or what Pepper (1942) called worldviews, that underlie those theories. Worldviews define basic assumptions, acceptable research methods, and the nature of evidence in scientific communities (Pintrich & Schunk, 2002). Op't Eynde, De Corte, and Verschaf-

fel (2001) highlight the importance of worldviews in efforts to expand motivation theory. They point out that researchers must prioritize their investigations by making critical decisions about factors such as the primary unit of analysis. One's fundamental assumptions about the nature of knowing, learning, and engagement seem central to continued development of motivation theory: "The mere act of identifying a specific contextual motivation factor makes assumptions about knowing and learning that may not be apparent or be held by others. Practically, this means that one researcher's investigation of contextual motivation might be based on constructs that other researchers consider epiphenomenal—and that some educators, policy makers, and parents consider irrelevant" (Hickey & McCaslin, 2001, pp. 33–34). If individual scholars fail to explicate their fundamental assumptions, efforts of the broader communities to advance motivation theory are likely to be confounded. This seems critical, given the previously modest effect of motivation research on educational practice (see Covington, 1996; McCaslin & Good, 1992; Kellaghan, Madaus, & Raczak, 1996).

Next, I characterize the assumptions underlying prior behavioral and cognitive models of motivation. These characterizations are necessarily brief. An extended treatment is presented in Hickey and McCaslin (2001) and Hickey and Zuiker (in press). I consider the implications of these assumptions for studying engagement and for understanding the relation between motivation and context. In the next major section, I present a much more detailed consideration of sociocultural perspectives, following the same structure. In each, examples are drawn from an ongoing study of teaching and learning introductory genetics (Hickey, 2000). This study was designed to examine the issues raised in this article. In it, three teams of researchers are attempting to examine engagement during computer-supported instruction and formative feed-

back activities from the three different perspectives outlined here.

Mechanistic Worldviews and Empiricist Epistemology

One possible starting point for considering motivation in context follows from a mechanistic worldview, which characterizes development and learning using the metaphor of a machine (or more recently, the computer). This worldview supports an empiricist characterization of knowledge in terms of specific associations (i.e., patterns) that originate in the environment. Empiricist assumptions continue to underlie behaviorist theory and some perspectives on human cognition (e.g., Anderson et al., 1996). Although empiricist views have largely been supplanted in the study of motivation, they are consistent with "folk psychology" views held by much of the public and many policy makers (e.g., Tomlinson & Cross, 1991; see Bereiter, 2002; Olson & Bruner, 1996). These views have found new proponents with the ascendancy of market-oriented approaches to educational reform.

Following from the philosophy of David Hume and the British empiricists, this view assumes that knowledge acquisition starts when the sensory organs detect stimuli in the external world. The mind then detects patterns in these stimuli, and these patterns are learned as specific behavioral or cognitive associations. From this perspective, to "know" something means possessing associations that represent fragments of an objective external reality. Empiricist views are inherently reductionist (assuming that complex behavior or concepts consist of smaller elements) and additive (assuming smaller elements readily assemble into an accurate representation of the more complex entity).

This view of knowledge implies that learning entails building and strengthening internal representations of external associations. From this perspective, learning occurs whenever organisms engage in activity

that creates or strengthens internal representations of environmental associations. This means that engagement (in learning) is defined as participating in whatever routines of activity cause the organism to construct and strengthen particular associations. As such, any principles for motivating engagement in learning involve keeping the organism engaged in those routines. As embodied in behaviorist direct instruction models (e.g., Fredrick, Deitz, Bryceland, & Hummell, 2000), a fundamental empiricist motivational principle is that content must be broken down into small units and carefully sequenced so that learners can experience regular success. As elaborated by Chance (1992), artificial extrinsic rewards are appropriate when such success is insufficiently rewarding to reinforce continued engagement.

From this perspective, engagement is studied by determining whether learners are engaged in the routines of activity that will lead them to build and strengthen intended associations. Thus, in our ongoing introductory genetics research (Hickey, 2000), a team of researchers led by a behaviorist is measuring engagement in terms of the proportion of class minutes each student is behaviorally engaged during collaborative formative feedback activity.

In terms of the relation between motivation and context, empiricist views lead to a focus on isolated individuals as the primary unit of analysis. Context is essentially the source of associations that represent knowledge and the source of incentives that cause those associations to be learned. This relegates context to the role of providing input, accepting output, and providing feedback. This assumption is reflected in the way that empiricist instructional practices presume a high level of control over the learning environment while ignoring the sociocultural context in which the learning environment is situated. For example, Fredrick et al. (2000, p. 42) argue that "teachers do not control the environments students come from [or] the knowledge they bring

with them. . . . However, they do control the learning environment in the classroom."

Organismic Worldviews and Rationalist Epistemology

Another possible starting point for studying motivation in context follows from what Pepper (1942) labeled an *organismic* worldview. The metaphor for learning that follows from this worldview is the developing organism. In the case of educational research, the central unit of analysis remains the individual, but in terms of the way one group of individuals compares to another group of individuals. This worldview supports a view of knowledge that is consistent with Continental Rationalist philosophy. Kant argued that the mind acquires knowledge by imposing order on information detected by the senses. Psychologists who embrace this view emphasize the order-imposing structures that humans are born with and that develop with age. This more developmental approach characterizes knowledge as idiosyncratic higher-order conceptual schema that human beings acquire as they attempt to make sense of the environment (Case, 1996). As most generally associated with Piaget (e.g., 1952), this perspective presumes that individuals acquire these schema via an intrinsic, uniquely human sense-making process. This means that knowledge resides in the minds of individuals and is a by-product of cognitive processes that allow humans to comprehend new information in the environment. Despite the shift away from explicitly Piagetian "stage-wise" models of development, this focus on the ways the mind structures and transforms information continues to underlie a great deal of research in cognitive psychology and education. These assumptions underlie the widely held distinction between intrinsic and extrinsic motivation as well as most modern motivation research.

From this perspective, engagement refers to being engaged in making sense of new information in the environment. As

such, learners need to encounter potentially meaningful new information in the environment and then attempt to make sense of it. As embodied in the influential expectancy \times value model of motivation (e.g., Pekrun, 1993; Wigfield & Eccles, 1994, 1995), meaningful learning requires both an expectation of success at solving a task and value for the outcome of a task (or the solution). These assumptions argue against offering extrinsic rewards to motivate engagement because they interfere with natural, intrinsic learning processes (Kohn, 1993).

This perspective leads researchers to characterize engagement in terms of the individual's sense-making activity. This can entail direct observation of whether individuals choose to engage in problematic tasks, the tasks in which individuals choose to engage, or the individual's effort and persistence once he or she is engaged. Self-report questionnaires have proven useful for assessing whether individuals are orienting their activity toward adaptive sense-making goals or maladaptive ego-oriented goals. Prior research shows that such orientations are related to direct measures of engagement, as well as reported use of desirable strategies for representing and transforming information (e.g., Pintrich, Smith, Garcia, & McKeachie, 1993). In our introductory genetics research, we are assessing engagement from a rationalist perspective by having learners complete self-reports of their goal orientation and domain interest before, during, and after instruction and by examining free-choice engagement once an extrinsic reward is no longer offered.

In terms of a contextual model of motivation, a rationalist perspective characterizes context as a source of uncertainty or disequilibria that is necessary for internal sense-making to occur. Although Piaget acknowledged the importance of physical and social contexts to development, he also argued that most normal human environments provide sufficient stimulus (Case, 1996, p. 78). Following in this tradition,

modern motivation theories generally characterize context as a source of expectancy-related and value-related information. This information encourages or discourages the individual from attending to uncertainty and attempting to make sense of it. This view has led to efforts to broaden motivation research using aggregated individual-level constructs like goal orientation to characterize broader contexts. These insights can then be used to study how contexts influence the goals, engagement, and learning of individuals. For example, Epstein's (1989) TARGET (task, authority, recognition, grouping, evaluation, and time) spawned extensive inquiry into the motivational influences of classroom, school, and community contexts (as outlined in Pintrich and Schunk, 2002, chaps. 8–10). Such research in turn has led to guidelines for creating contexts that support desirable motivational orientation in learners (e.g., Bempechat, 1998; Corno & Randi, 1999). Most efforts to define contextual models of motivation seem destined to follow this general logic. Specifically, their analysis of motivation and context implies a rationalist characterization of knowing and learning and uses aggregated individual-level constructs to characterize broader contexts. As I will show, a sociocultural perspective raises fundamental concerns about both.

Contextualist Worldviews and Sociocultural Epistemology

Social perspective theories are generally consistent with what Pepper (1942) called a contextualist worldview. The dominant metaphor for a contextualist worldview is a historical event, something that cannot be understood outside the context in which it occurred and the context from which the event is being considered. This focus on events (rather than individuals) yields a primary unit of analysis of events themselves. Consistent with this worldview, Vygotsky (1978) characterized learning as the internalization and transformation of socially

defined knowledge. This was an elaboration on Engels's (1890/1972) argument that human labor and tool use are the means by which humans change nature, and in doing so, change humankind. Primarily focusing on language, but including symbol systems more broadly (such as number systems), Vygotsky extended Engels's argument that using tools of physical labor changed humankind to argue that using tools like language changes the human mind. Rather than merely employing such tools and internalizing their function, Vygotsky argued that any participation in the use of these tools necessarily changes those tools. Just as Engels argued that an economy was comprised of the collective contributions of every worker, Vygotsky argued that culturally defined knowledge such as language was comprised of the collective participation of the members of that culture.

From this view, knowledge does not originate in the structure of the objective world or in spontaneous efforts to make sense of that structure. Neither does knowledge originate in the individual's interaction with the objective world, as Piaget maintained (Case, 1996). Rather, knowledge originates in the interaction of social and material worlds and resides in socially defined tools and ways of interacting (Lave & Wenger, 1991). Such characterizations of knowledge assume that all learning takes place by definition in the now-familiar zone of proximal development (ZPD), where individuals are using social and physical tools to participate more successfully than they could otherwise.

Many balk at such characterizations of knowledge, particularly when applied to seeming static knowledge such as arithmetic or to physical objects such as tools. A potentially useful everyday example is the phenomenon many parents witness when their young children first attend kindergarten. Such children often begin using new phrases and begin using familiar objects like toys in new ways. The behaviors seem idiosyncratic until parents spend time

around their children's classmates or visit the classroom. The new behavior is then recognized as part of ritualized forms of interacting and communicating that their children have been participating in at school. Some of this activity is the appropriation of standards and values of the broader school context (e.g., prohibitions or expectations regarding use of art materials). Conversely, some of these new rituals emerge spontaneously with each new cohort of students (e.g., peculiar mannerisms). More systematic observation would reveal that much of this new "knowledge" is tightly bound to its original sociophysical context. Thus, for example, these children appear more "knowledgeable" in this regard when they encounter their classmates or classroom materials or toys outside of their classroom. Some of this new knowledge "disappears" after the school year, but some is maintained and continues in subsequent contexts, and some becomes institutionalized in the school context. From a sociocultural perspective, all knowledge is generated and maintained in just such a fashion, but in the broader context of human culture.

A knowledgeable individual from this perspective is one who participates successfully in sociocultural rituals and uses socially defined tools—what might best be called knowledge rituals and knowledge tools. Along with the more familiar conceptual knowledge, these can be referred to more inclusively as knowledge practices. When knowledge is presumed to be a product of its use, learning is then characterized as increasingly regular and increasingly successful participation in knowledge practices. As described by situative theorists like Greeno et al. (1998), learning occurs as individuals and the contexts in which those individuals act become familiar with (i.e., attuned to) the constraints and affordances that simultaneously bound and scaffold participation. Becoming attuned to constraints and affordances means that participants in knowledgeable activity are in-

creasingly able to use physical and social tools to maximize successful participation and overcome the limitations of individual human minds.

A sociocultural view of knowledge supports a unique view of learning. The empiricist and rationalist perspectives supported a relatively clear distinction between "having" and "acquiring" knowledge. The distinction between cognition and learning is not as clear from this more participatory perspective. From this perspective, to engage in learning is to participate in the meaningful use of knowledge practices. This different view of engagement calls for different models of practice for motivating engagement. I next explore a core issue with this approach and then consider a stridently sociocultural version of that approach.

Coregulated learning. Perhaps the most well-known socially oriented model of engagement and motivation is McCaslin's model of coregulated learning (McCaslin & Good, 1996a, 1996b). It is an explicitly Vygotskian model (e.g., McCaslin Rohrkemper, 1989; Rohrkemper, 1986) that has been advanced as an integrative approach for understanding interpersonal dynamics in classroom contexts. It focuses on the relationships, social supports, opportunities, and emergent interactions that empower the individual to seek new challenges within that scaffolded environment. Students are presumed to internalize those supports in a manner that is expected to further enhance their ability to participate in worthwhile school activity.

McCaslin and Good (1996a, p. 660) argue that coregulated learning "can take into consideration many of the advances in research on the various component processes [of intrapersonal knowledge] as it integrates the social/instructional environment with the learner in mutual pursuit of a standard of excellence, within a setting of accountability." The model is perhaps best understood as it contrasts with the more ubiquitous self-regulated learning (SRL; e.g., Schunk, 2001). Reflecting its roots in so-

cial cognitive theory (Bandura, 1986), SRL focuses on individual learners who are unwilling (in protest or self-protection) and/or unable (because of insufficient prior knowledge, cognitive strategies, or metacognitive strategies) to engage productively in learning activities. Thus, SRL focuses on changing individuals to make existing instructional tasks and learning more meaningful. In contrast, McCaslin and Good argue that motivation and learning are "not merely individual struggles" (1996a, p. 660). The coregulated learning approach encompasses intrapersonal processes of motivation (including prior self-knowledge and future expectations), enactment (including overt and covert goal-coordination strategies that consider both personal and situational resources and supports), and evaluation (particularly self-evaluation). Most importantly, these processes are considered in the context of relationships with other participants, structural supports, and affording opportunities in the social/instructional environment.

Coregulated learning assumes that the standards and values presumed to motivate learning are socially constructed. By fundamentally situating learners in the social/instructional context, these models go beyond interactive models that assume motivation is influenced by the social context. This focus is perhaps best understood as a natural extension of prior inquiry into the interpersonal dynamics in which the intended curricular activities are enacted (e.g., McCaslin & Murdock, 1991; McCaslin et al., 1994; Rohrkemper, 1984, 1986; Rohrkemper & Corno, 1988).

The contextual specificity of standards and values. A critical issue for sociocultural models of motivation is the degree to which motivational standards and values are bound to the context in which participants coconstruct them. Such an understanding appears central for (1) further advancing these models, (2) evaluating claims regarding corresponding principles and practices, and (3) reconciling these models with other

models of contextual motivation. McCaslin and Good write:

Coregulated learning integrates the changing learner with changes in features of the social/instructional environment that provide appropriate structures that support and require motivated student learning (e.g., tasks, opportunities for autonomy, assessment procedures). *When the student has internalized the social structural supports*, she is capable of relatively self-regulated learning in that particular domain. Thus, although the ultimate goal may be self-regulation, coregulation is the process by which the social/instructional environment supports or scaffolds the individual via her relationships within the classroom, relationships with teacher and peers, objects and setting, *and ultimately the self* (1996a, p. 660, emphases added).

Thus, although the standards and values emerge in the negotiations among participants in their use, they are presumed ultimately to be internalized. In essence, such characterizations advance a fundamentally sociocultural view of the creation of standards and values, then assume that these standards and values are internalized by the individuals via their participation in the interactions that gave rise to them.

Just as internalization of knowledge has been a key question for sociocultural learning theorists, the internalization of standards and values that motivate learning is a key question for sociocultural motivation theorists. Stridently sociocultural theories of cognition assume that knowledge ultimately resides in the context of its use and that the apparent internalization of knowledge is epiphenomenal (e.g., Wenger, 1998). Might a sociocultural theory of motivation similarly assume that the standards and values associated with that knowledge ultimately reside alongside that knowledge, also in the context of their use? Might the apparent internalization of standards and values also be epiphenomenal? Obviously, there is no empirical means to resolve this

question. As a model of motivation becomes more stridently sociocultural, the standards and values become so tightly bound to the context in which they were coconstructed that the notion of internalization becomes less and less relevant.

To reiterate, one application of sociocultural theory implies that learners internalize the standards and values in learning contexts when they participate in the knowledge practices that define those contexts. To use contemporary situative terms, this implies that the individual learner coconstructs the standards and values by participating in the learning context and then becomes attuned to them. This clearly contrasts with prevailing cognitive/rationalist models that do not emphasize the coconstruction of standards and values by participants. The issue here is whether this implies that individuals acquire standards and values "whole cloth" via their participation in knowledgeable activity that gave rise to those standards and values.

Referring to this article's second core argument, the assumption that the collective and continuing use of those standards and values (to motivate engagement in learning) means that they are constantly being negotiated in specific learning contexts. If so, the standards and values seem more appropriately characterized as residing alongside the knowledge practices in the contexts where they were constructed. In other words, the context becomes attuned to the standards and values of the collective participants who define that context rather than the other way around. This fundamentally contextualist assumption appears to have profound implications for any educational research that is concerned with learning in complex social contexts. As Greeno et al. (1998, p. 7) point out, a fundamentally contextualist approach addresses the issues of generalizability confronting individually oriented approaches: "Without analyzing the larger systems thoroughly, we risk arriving at conclusions that depend on the specific features of activities that occur in

the special circumstances that we arrange, and that these specific features will prevent generalization to the domains of activity that we hope to understand."

From a sociocultural perspective, an analysis of learning contexts that does not emphasize how contexts are attuned to the standards and values of the participants seems to present such a risk. In other words, emphasizing (or perhaps even acknowledging) that individuals are ultimately attuned to contexts may preclude a thorough analysis of the larger sociocultural systems in which motivated activity occurs.

The assumption that standards and values ultimately reside in the context of their use may be too large a theoretical leap from the existing cognitive conceptualizations of motivation. After all, the internalization of socially defined knowledge via language was a central aspect of Vygotsky's (1978) theory. This is a complex issue that seems to demand extended consideration. In this article, I consider this issue from an approach to educational research that places the advancement of useful educational practices over traditional concerns with theoretical coherence and parsimony. From this perspective, such issues should be resolved in light of practical implications of one assumption versus the other. As I attempt to show next, the assumption that standards and values are internalized seems partly responsible for the apparent reconceptualization and trivialization of the instructional implications of sociocultural perspectives. Specifically, many theorists characterize the sociocultural assumptions about learning as little more than group instructional strategies for developing intrinsically motivated, self-regulated learners. To make this point, it is first necessary to outline notions of participation and identity that sociocultural theorists have advanced. I then use these notions to outline stridently sociocultural principles for motivating engagement. It is then possible to compare this view with the range of ways that other motivation theorists have characterized the

motivational principles that follow from sociocultural theory.

Engaged participation. Regardless of perspective, motivational practices are ultimately about getting and keeping students engaged in learning. A sociocultural view of learning supports a characterization of engagement as meaningful participation in a context where to-be-learned knowledge is valued and used (Wenger, 1998). This participation involves the maintenance of interpersonal relations and identities in that community as well as satisfying interactions with the environments in which the individual has a significant personal investment (see Greeno et al., 1996, p. 26). Put differently, from a sociocultural perspective, engagement is a function of the degree to which participants in knowledgeable activity are attuned to the constraints and affordances of social practices and identity. This differs in important ways from the empiricist view of engagement as a function of contingencies in the environment, as well as the rationalist view of engagement as a function of learners' goals, expectancies, and values: "Regarding motivational issues, the situative perspective emphasizes ways that social practices are organized to encourage and support engaged participation by members of communities and that are understood by individuals to support the continuing development of their personal identities" (Greeno et al., 1998, p. 11).

In short, it seems that a centerpiece of a sociocultural view of motivation is the notion of engaged participation. Viewing motivation as engaged participation in knowledge practices places the burden for motivating engagement on those practices rather than on the environment (in a mechanistic, behaviorist view) or on individuals (as in a contextualist, rationalist view). In other words, if the "community" in a classroom does not value participation in knowledge practices associated with the intended curriculum, it will be difficult for any individual to participate in those practices. This is not to say that such students are not

learning; by virtue of their presence in classrooms, all students are participating in sociocultural rituals and are therefore learning. The critical point is that the knowledge practices that learners are participating in (and therefore learning) may be unrelated or antagonistic to the intended practices.

Put differently, one can argue that the standards and values that motivate engagement are a function of the same negotiations between the social and material worlds that gave rise to other knowledge. If so, they are also part of that knowledge. Engaged participation is about negotiating one's identity with different and potentially conflicting and competing communities of practice. This necessarily involves both conformity to and alienation from prevailing standards and values. This is because these standards and values are a function of the knowledge communities those practices represent. As such, what is typically construed as internalization is really better understood as continued participation in the use of those standards and values. Not surprisingly, there is strong resistance to this notion among motivation theorists. Certainly the notion is counterintuitive to those whose scholarly roots are in psychology. To many (especially educators), the notion must seem deterministic, leaving little room for free will. As I show next, however, contemporary sociocultural theorists have advanced plausible arguments in support of leaving standards and values in the context of activity whereby they were negotiated in the first place.

Identity and engagement. Identity's central role in sociocultural views of development and learning has been well established (e.g., Penuel & Wertsch, 1995). Prior psychological perspectives conceptualized identity as a function of beliefs and values. Sociocultural views characterize identity as a function of our practices, of our lived experiences of participation in specific communities (and therefore our competencies) rather than our beliefs or values. And if identity is negotiated with the social con-

text, it can also reside there. "Identity in this sense is an experience and a display of competence that requires neither an explicit self-image nor self-identification with an ostensible community" (Wenger, 1998, p. 152). This view of identity is difficult to reconcile with prior perspectives because it cannot be attributed to the individual or the environment. This means that psychological characterizations of identity that focus on individuals (especially those that rely on self-report surveys, but including those that use interviews) capture a view of identity that is at best incomplete.

The popular notion of legitimate peripheral participation (Lave & Wenger, 1991; also Brown & Duguid, 1993) highlights the dynamic, temporal nature of a sociocultural view of identity. The process of negotiating identity with multiple communities of practice is an ongoing learning process and one that a given individual can never fully comprehend. Wenger's notion of trajectories is helpful in this regard, contrasting, for example, inbound and outbound trajectories. In the former, one's competence relative to a given community of practice negotiates peripheral participation but with the clear trajectory toward the center, toward becoming a fuller participant in the coconstruction of that community's practices. This identity is very different from the identity negotiated around an outbound trajectory leading out of the practices of a given community. Identities associated with some outbound trajectories (such as from childhood or toward graduation from high school) are natural and desirable, whereas others (such as premature separation from formal schooling) are undesirable. Importantly, however, such reified milestones are not the only (or even primary) way that identity trajectories are defined. Communities of practice provide models for negotiating trajectories. These so-called "paradigmatic" trajectories embody the history of the community, actual people as well as composite stories: "In the end, it is members—by their very participation—who create the set of possibili-

ties to which newcomers are exposed, as they negotiate their own trajectories. No matter what is said, taught, prescribed, recommended, or tested, newcomers are no fools; once they have actual access to the practice, they soon find out what really counts" (Wenger, 1998, p. 156). From this perspective, identity is not something that an individual turns on and off, or something that social interaction transmits to the individual. Rather, identity resides in the process of constant reconciliation, as multiple individuals work to reconcile their participation in different, competing communities of practice.

More to the point of this article, sociocultural views do not characterize identity as the result of reconciliation. Rather, identity is negotiated as participants reconcile membership in competing communities. This emerges as a central point of divergence with conventional individually oriented models of motivation. Even highly interactive models of motivation and identity presume a clear distinction between individual and community. Yet Wenger (1998, p. 146) argues, "Each act of participation or reification, from the most public to the most private, reflects the mutual constitution between individuals and collectivities," so that the separate notions of the individual and the community "are reifications whose self-contained appearance hides their mutual constitution."

Identity and nonparticipation. A useful aspect of a sociocultural model of motivation is its characterization of nonparticipation. Wenger (1998, p. 145) writes that "focusing on identity brings to the fore the issues of non-participation as well as participation, and of exclusion as well as inclusion." The notion of nonparticipation highlights the tensions among the practices of the many different communities around which classroom activity is negotiated. Most obvious are the communities defined by the knowledge practices that make up the "official" curriculum. Domains such as science, language, and math are defined by

specific knowledge practices that students, by gaining competence with, negotiate an identity with. But these knowledge practices are all constrained within social rituals of classrooms in general, as well as each particular classroom. In many, if not most, classrooms, the knowledge practices as enacted via teachers, texts, and tests have a dubious relation with their authentic practice outside of the classrooms. This creates yet another community of practice that must be reconciled. Meanwhile, there are the many nonacademic practices associated with youth culture, many of which are antithetical to the intended practices of school. To complicate matters even more, a variety of conflicting contingencies in the environment reward or punish participation and nonparticipation in the different practices—an additional constraint on activity as individuals and the many communities of practice negotiate identity formation.

Given the many competing practices that must be negotiated, nonparticipation in some is inevitable. But nonparticipation is not neutral relative to identity formation. Obviously there are infinite unnoticed experiences of nonparticipation. Most are so removed from the individual and the community of practice that they are irrelevant. The experiences of nonparticipation of concern are those that define identity and, therefore, participation. Successfully negotiating absent-minded doodling during study hall supports a very different identity than during biology; doodling during an achievement test is different still. Likewise, a child's mindless banging of a tree with a stick means something quite different on the playground than on a field trip. In a useful elaboration, Wenger (1998) distinguishes between peripheral and marginal nonparticipation. The former is associated with an inbound trajectory toward a community of practice. Peripheral nonparticipation is enabling because it conveys both opportunity and expectation for fuller participation. In contrast, marginal nonparticipation is associated with an outbound tra-

jectory relative to the particular community of practice. Marginal nonparticipation conveys neither opportunity nor expectation for fuller participation. This forces us to acknowledge that many learning environments offer trajectories that are not remotely inbound toward the knowledge practices that they intend. Just as the notion of legitimate peripheral participation has become widespread among sociocultural instructional theorists, the notion of marginal nonparticipation seems a valuable notion for sociocultural motivation theorists. Hence, it is being advanced here as the undesirable, maladaptive end of the continuum that defines a stridently sociocultural model of motivation.

Marginal nonparticipation seems particularly useful because it illuminates the complex motivational reality of the disadvantaged students who are so profoundly at risk of school failure (e.g., Bempechat, 1998; Csikszentmihalyi, Rathunde, & Whalen, 1993; McCombs & Pope, 1994). By the time students are labeled "at-risk," their mutually constituted trajectory may be so misaligned with the knowledge practices of formal schooling that it is impossible for most individuals to redirect it. Eckert (1989) showed how nonparticipation by "jocks" and "burnouts" plays a central role in identifying the practices that define the boundaries of both communities. In the case of antisocial practices among students such as defiance, bullying, drug use, delinquency, truancy, and so on, the communities that form around those practices are defined by their opposition to the intended prosocial practices of the school community—and vice versa. Because membership in one community by definition implies marginalization in the other, crossing boundaries becomes exceedingly difficult. Negotiating membership in both communities or crossing boundaries entirely presents the further risk of double marginalization. These notions highlight the limitations of individually oriented considerations of motivation. If fundamental aspects of nonparticipation

reside outside of the individual's control and awareness, it seems difficult to consider nonparticipation in interactive models such as Bandura's triadic reciprocity (e.g., 1986); more to the point of the present article, the notion that standards and values reside alongside the knowledge practices seems antithetical to a model that assumes that they are internalized.

The utility of this perspective for understanding nonparticipation is not limited to acknowledged nonparticipation. The seemingly contradictory notion of legitimate nonparticipation offers a powerful framework for understanding typical educational practices. Consider the science education phenomenon Duschl (Jimenez-Alexandre, Rodriguez, & Duschl, 2000) called "doing the lesson." Relative to the knowledge practices associated with scientific domains, Duschl argues that the vast majority of activity in science classrooms is consistent with what Bloome, Puro, and Theodourou (1989, p. 272) called procedural display: "Procedures that themselves count as accomplishment of a lesson . . . not necessarily related to the acquisition of intended academic or nonacademic content or skills." In other words, instead of learning to "do the science," most of the knowledge practices in school science involve coping with the demands of the class and still getting a good grade, regardless of whether the actual knowledge practices of science are involved (see Schauble, Glaser, Duschl, Schulze, & John, 1995). The important point is that the students' nonparticipation in the knowledge practices of the domain is entirely legitimized by prevailing curricular practices. The pressures of time, accountability, and resources that are cited to justify these activity structures are pervasive and potentially inevitable; the legitimacy of such nonparticipation is open to interpretation. But for many students whose identity includes successful participation in school science practices, their nonparticipation in authentic scientific practices is an essential (but almost entirely unnoticed) element of that identity.

Prior Characterizations of Sociocultural Views of Motivation

The third core argument in this article concerns the assumption that all learning involves using (and therefore changing) socially defined knowledge and values about that knowledge. As exemplified in Brophy (1998), Pintrich and Schunk (2002), and other influential motivation texts, there are numerous characterizations of the sociocultural notions such as the zone of proximal development as instructional strategies that support intrinsic motivation. My previous writing (Hickey, 1997) similarly focused on the motivational implications of contemporary sociocultural instructional practices. Such characterizations overlook the assumption that students are always participating in something (even when they choose not to participate in the intended curricular activities) and are therefore always functioning in a ZPD. Conservative interpretation of sociocultural theory leads to the related assumption that movement through the ZPD is only accomplished with the direct help of more capable others (such as teachers and parents). This overlooks the assumption that physical tools such as books and computers also provide assistance that can define ZPDs. This is because socially constructed knowledge is represented in books, lab materials, computers, and other physical artifacts. Solitary engagement with those artifacts *can* support meaningful engagement in the knowledge practices of a larger community. Conversely, active participants in collaborative learning activities can be completely disengaged from the larger community to which they are ostensibly being acculturated (e.g., the practices of scientists). A more complete, participatory characterization of the ZPD seeks to understand why learners are participating in practices (i.e., functioning in ZPDs) other than the desirable, intended practices (e.g., Wenger, 1998).

At issue here is the difference between engaged participation in the use of socially defined knowledge (as described above)

and the presumed utility of collaborative activities for promoting intrinsic properties of individuals (e.g., interest, value, expectations for success, goals, perseverance). This understates the effort to understand engaged participation as guidelines for designing intrinsically motivating environments or training students to self-regulate. For example, Zimmerman and Schunk (2001a, in reference to McCaslin & Hickey, 2001b) refer to coregulation as "coconstructive learning" and list it as an example of a group learning method alongside reciprocal teaching (Palincsar & Brown, 1984). Illustrating the need for a strident analysis, Zimmerman and Schunk argue that "the coconstructivist approach is especially attractive for students who have little initial self-regulatory motivation or skills and who are not current members of effective learning communities" (2001a, p. 299). This relegates the coregulation perspective to the status of an instructional strategy for teaching learners to self-regulate. It also overlooks the assumption that the real problem in education is not the lack of effective learning communities; rather it is the sheer effectiveness of the learning communities that are defined by practices other than the knowledge practices associated with the intended curriculum.

The general issue and practical implications being raised here are highlighted in successive efforts to advance theories of self-regulated learning by Paris and colleagues. In 1989 Paris and Brynes advanced a constructivist model of self-regulated learning that was consistent with a cognitive/rationalist view of knowing and learning. This model emphasized humans' intrinsic desire to understand the environment, individual internal cognitive processes in learning, and developmental constraints on learning. More recently, Paris, Brynes, and Paris (2001, p. 254) retrospectively characterize their earlier model as a product of the "first wave of constructivism," "based largely on a 'solo' model of learning." Their more recent chapter explains

how the "second wave of constructivism" represented by social perspective theories led them to revise their previous model. Their current model of self-regulation rejects that solo model of cognition and emphasizes culture and context as described by researchers such as Vygotsky, Cole, Greeno, and Lave. Yet they maintain a seemingly conservative interpretation of these theories: "If acting like X leads to positive acceptance, it is likely that students will direct their behavior and learning to becoming a better X. If the consequences of SRL [self-regulated learning] are not positive, then students are likely to choose a different identity than become unregulated. Whether the aspired X is an identity valued by peers, parents, teachers, or self depends on many factors" (Paris et al., 2001, p. 259). Although the notion that students do not "become unregulated" seems consistent with the participatory view of identity outlined above, the notion that students "choose" an identity does not. Similarly, Paris et al. (2001) state, "Regulation is a consequence, not necessarily the cause, of trying to act according to the roles and rules of a desired identity, one of the possible selves that students try on and try out, in specific situations" (p. 260). That "regulation is a consequence" seems consistent with a participatory view. Yet the notion that students "try out identities" seems inconsistent with the assumption that "each act of participation or reification . . . reflects the mutual constitution between individuals and collectivities" (Wenger, 1989, p. 146). These seem to be nontrivial differences that transcend mere semantics.

Paris et al.'s (2001) conservative interpretation provides an example of the practical implications of the more strident interpretation being advanced here. They write that "students can create different ideas about their own ability depending on the school practices of academic assessment and evaluation. Private, non-competitive, self-referenced assessment promotes students' ideas about the importance of personal growth and mastery, whereas norm-

referenced comparative and public evaluations of abilities promote students' ideas about winning classroom competitions and enhancing relative status among peers" (p. 255). This position is consistent with the overwhelming evidence that "private, self-referenced assessment" is ideal when learning is defined as individual acquisition of higher-level cognitive structures via intrinsic sense-making processes. As alluded to above, when learning is defined as engaged participation in the coconstruction of knowledge, the negative effect of "comparative and public evaluations of abilities" may be minimized or reversed. Some sociocultural theorists argue that competition can actually have powerful positive effects, so long as students are offered clear standards, meaningful feedback, and the opportunity to improve (see Collins, Brown, & Newman, 1989, p. 490). As I describe below, classroom research is now underway to test this idea.

Reconciling Competing Theories of Motivation

I have argued that achievement motivation involves reconciliation of participation in the knowledge practices of multiple and potentially competing communities. Another kind of reconciliation involves the relation between competing views of knowing and learning. Despite Greeno et al.'s (1996, p. 40) claim that clarification of the relations between different perspectives is a critical issue for educational psychology, there has been little explicit consideration of theoretical reconciliation in current efforts to broaden achievement motivation. Given the competing views of knowing and learning held by educators, researchers, and policy makers, clarification should help advances in motivation research to advance educational practice. One approach explores the logical route that each of the three perspectives I have outlined would follow when considering the ostensible potential of the other two. This shows how the reconciliation that follows logically from a sociocul-

tural perspective addresses tensions that are presented by the reconciliation that follows from the other two.

Aggregative Approaches to Reconciliation

The most straightforward approach to reconciliation follows what Greeno and Moore (1993) labeled the "levels of aggregation" approach. Such approaches use aggregated individual-level constructs to characterize and understand broader physical and social contexts. Although such an approach seems to follow logically from both empiricist and rationalist perspectives, the assumptions of each lead to somewhat different aggregative approaches.

Empiricist reconciliation. As I have described, the assumptions of additivity and reductionism support the isolation of specific concepts and skills and imply a high degree of control over the learning environment. From this perspective, one can characterize the way humans represent and transform information as "higher-level" activity using the same set of lower-level associative principles, while minimizing the influence of the broader contexts of activity. This allows Anderson et al. (1996) to characterize specific skills as entirely distinct from the contexts where those skills will be employed and to limit the relevance of complex social contexts to their motivational utility or their introduction of skills that are unique to those contexts. Thus, Anderson, Boyle, and Reiser's (1985) Geometry Tutor program was designed and evaluated using well-specified empiricist information-processing assumptions about individual learning, with little apparent consideration of the sociocultural context of the classrooms where it was to be used. The concern expressed by Greeno et al. (1998) that such analyses prevent generalization is exemplified in Schofield's (1995) extended ethnographic analysis of classrooms where the Geometry Tutor was being used. Schofield's analysis showed that ostensibly irrelevant factors concerning the classroom

social context had a profound influence on individual activity and achievement.

Rationalist reconciliation. A more deliberately aggregative reconciliation appears to follow from rationalist views of motivation. As embodied in influential motivation textbooks (e.g., Pintrich & Schunk, 2002), behavioral views can be assigned a relatively trivial role of explaining the simple behavior of isolated individuals. One can then characterize broader sociocultural contexts using the same cognitive constructs developed to explain individual information processing. Anderman and Young (1994), Maehr and Anderman (1993), Maehr and Midgley (1996), and many others have demonstrated and argued how modifiable aspects of classroom and school contexts lead individuals to desirable goal orientations, expectations for success, and value of mastery. The majority of this research has relied on self-report measures to assess goals, expectations, and values, but some researchers have employed observational methods as well. These individual factors are then related to contextual factors within correlational or experimental designs.

This approach to reconciliation is consistent with the "pragmatic" approach I have previously argued for (Hickey, 1997). It is also consistent with influential efforts to understand contextual motivation in the classroom (e.g., Turner, 1995; Turner & Meyer, 2000; Turner, Meyer, Cox, Logan, & DeCinto, 1998) and cross-cultural contexts (Volet, 1999, 2001). An appealing aspect of this approach is that it affords empirical and interpretive triangulation. Turner (2001) pointed out that such multimethod approaches make it possible to examine overlapping or different facets of motivation from different perspectives (complementarity) and reveal paradoxes, contradictions, or fresh perspectives (initiation; Tashakkori & Teddlie, 1998). Reflecting an explicitly aggregative reconciliation between the individual and social level, Turner (2001, p. 89) argues that individual-level cognitive outcomes "could occur at

the level of the collective group as well as the individual level" and that "such motivational outcomes increase the group's identity with the situation because they help satisfy needs and goals." Likewise, Volet (1999, p. 225) concludes that "investigating the dynamics of motivation across levels of specificity ideally requires the use of mixed research methodologies, where traditional surveys involving multi-level designs and person-centered analyses are combined with repeated experience sampling, classroom observations, discourse analysis, online and video-recall interviews, and other evidence of typical and specific cultural educational practices."

Raising a critical issue for multilevel approaches, Op't Eynde et al. (2001) point out that limited resources and the complexities of interpretation have traditionally forced researchers to emphasize either an individual, interpersonal, or communal analysis. Fortunately, recent methodological advances provide new tools for dealing with complex multilevel data. In addition to the examples above, other noteworthy efforts to deal empirically with the complex multilevel analyses include Gurtner, Monnard, and Genoud (2001) and the research summarized in Linenbrink and Pintrich (2001). Just as the studies of motivation and goal orientation helped define individually oriented research methods, continued aggregative studies of contextual motivation may support methodological advances around newer multilevel methods such as hierarchical linear modeling (HLM; Bryk & Raudenbush, 1992).

Before considering a more sociocultural approach to reconciliation, it is worthwhile to consider Bandura's (1995, 2000) theory of collective efficacy. Somewhat surprisingly, this work has not figured prominently in efforts to define contextual motivation. There are no subject index references to it in the volumes by Volet and Järvelä (2001) and Urdan (1999); relative to self-efficacy, collective efficacy has heretofore received scant consideration by educational researchers. However, given the continuing

influence of social cognitive theory and self-efficacy among motivation researchers, and the pervasive notion of triadic reciprocity (among behavior, person, and environment), collective efficacy certainly is a plausible theoretical framework for understanding contextual motivation. Bandura's recent discussions of collective efficacy provide perhaps the most explicit description of aggregative reconciliation: "The locus of perceived collective efficacy resides in the minds of the group members. A group, of course, operates through the behavior of its members. It is people acting coordinatively on a shared belief, not a disembodied group mind that is doing the cognizing, theorizing, aspiring, motivating, and regulating. There is *no emergent entity that operates independently* of the beliefs and actions of the individuals who make up a social system. Although beliefs of collective efficacy include emergent aspects, they serve functions similar to those of personal efficacy beliefs and operate through similar processes" (Bandura, 2000, p. 76, emphasis added). In other words, although it is a grammatical self-contradiction, the notion of "collective self-efficacy" is theoretically coherent. The crux of this and other aggregative approaches is the assumption that collective activity should be characterized using individual-level constructs. Clearly, this assumption conflicts with the participatory assumptions outlined above. The "disembodied group mind" that Bandura rules out may actually be an accurate description of the standards and values presumed to reside alongside knowledge practices in learning environments.

A Dialectical Approach to Reconciliation

Reflecting Vygotsky's philosophical orientation, an alternative reconciliation of the individual and the social context is rooted in a Hegelian cycle of thesis-antithesis-synthesis. As Greeno and Moore (1993) suggested, this approach first characterizes empiricism as the initial thesis and then

characterizes rationalism as empiricism's antithesis. Thus, the assumptions underlying cognitive/rationalist approaches (including most modern motivation theory) are best understood as antithetical to the assumptions underlying behavioral/empiricist approaches. This emphasizes their incompatibility and highlights the futility of considering the validity of one perspective through the lens of the other. A dialectical reconciliation then characterizes socioculturalism as a higher-order synthetic perspective that combines the strengths and minimizes the weaknesses of the other two. Such a view "supports an expectation of theoretical developments that will show how principles of individual behavior and information processing can be understood as special cases of more general principles of interactive function" (Greeno et al., 1996, p. 40). In this approach to reconciliation, both the specific behaviors of individual organisms and the typical patterns of human cognition are characterized as fundamentally situated activity that cannot be fully understood outside of the context where it occurred. As such, both behavior and cognition can only be fully explained in terms of the physical and social constraints and affordances that simultaneously bound and scaffold activity in the context where it occurs. This means that typical individual-level characterizations of both behavior and cognition are at best incomplete characterizations of isolated activity.

The dialectical approach argues that empirical data about the way organisms respond to environmental contingencies or the way humans typically think are epiphenomenal artifacts of the specific setting and methods that allowed the data to be collected. This has long been a concern about self-report Likert-scale items that have been the mainstay among motivation researchers (see Hidi & Harackiewicz, 2000). Most importantly, though, a dialectical approach argues that simply using observations and interviews alongside or in lieu of self-report methods (as in many recent studies of con-

textual motivation) will not address this problem. The essence of the dialectical approach is captured by the label "competitive" applied to this approach by Greeno et al. (1996). A dialectical approach assumes that situated sociocultural activity provides an ideal window for understanding individual behavior and cognition but not vice versa. Consider Eraut's (2000, in Turner, 2001, p. 99) insistence that "the situative perspective must be able to explain how individuals enter, engage in, and leave shared experiences with a shared construction of reality while retaining individuality." A dialectical approach does so by explaining "individuality" as just a special case of the shared experience, wherein "individual" (i.e., socially isolated) activity is wholly coregulated because it involves the use of socially defined concepts, tools, standards, and values.

The dialectical approach to reconciliation offers several potential advantages that seem to merit consideration. It offers a more clearly specified characterization of the relation between individual behavior, human cognition, and sociocultural activity. This appears to offer researchers a way out of the potentially endless interactions—the "hall of mirrors" warned of by Cronbach (1975; see Linnenbrink & Pintrich, 2001). A dialectical approach offers a way to prioritize efforts to collect, interpret, and report multilevel data. This is particularly important given the resources demanded by event-based data (as described below). By anticipating conflicting results, a dialectical approach provides a more coherent framework for presenting complex findings to divergent audiences. It also provides a valid framework for presenting selected results to particular audiences or for warranting particular arguments.

A dialectical approach also promises to help resolve conflicts over practices that follow from tensions between empiricist and rationalist assumptions. The most obvious of these conflicts is the seemingly intractable debate over extrinsic rewards and in-

trinsic motivation (e.g., Cameron & Pierce [1994, 1999] and Cameron, Banko, & Pierce [2001] vs. Lepper & Greene [1978], Lepper, Henderlong, & Gingras [1999], and Lepper, Keavney, & Drake [1996]). The sociocultural model of motivation outlined above characterizes engagement as a function of the standards and values that reside alongside the knowledge practices coconstructed in the context of their use. As Hickey and McCaslin (2001) noted, a dialectical reconciliation treats engagement presumed to be motivated by intrinsically human sense-making processes or by extrinsic contingencies in the environment as special cases of engaged participation. This offers a relatively objective viewpoint for judging engagement that is ostensibly motivated by either intrinsic or extrinsic factors.

Studying Participation and Reconciliation

The preceding suggests value in comparing aggregative and dialectical reconciliation. The nature of the issue precludes direct empirical comparisons. Rather, interpretive studies are needed that use different perspectives to collect and compare data from the same event. The introductory genetics research mentioned previously (Hickey, 2000; Hickey, Kruger, Fredrick, Schafer, & Kindfield, 2001) is doing just that. In a within-teacher/between-class design, the study compares different ways of motivating ninth graders to engage in formative feedback. One condition includes modestly competitive extrinsic recognition, where students volunteer to have their self-assessed proficiency publicly presented. As outlined above, three teams of researchers are simultaneously studying engagement during formative feedback activities from empiricist, rationalist, and sociocultural perspectives. In addition to engagement, learning is also being documented from each perspective. Consistent with an empiricist perspective, students are completing a multiple-choice test made of standardized genetics items before and after instruction.

Consistent with a rationalist perspective, students also complete a genetics performance assessment before and after instruction. This assessment requires students to solve a series of increasingly complex problems and provide a rationale for their answers (Hickey, Wolfe, & Kindfield, 2000). Finally, consistent with a sociocultural perspective, video-based ethnography is examining the transfer of curricular and domain knowledge practices from the formative feedback activity to the subsequent computer-supported collaborative learning activities.

This research should yield at least two interesting sets of findings. First, assuming that different perspectives will yield conflicting conclusions about the consequences of the extrinsic recognition for engagement, we will be able to compare different approaches to reconciling those differences. Our data should allow us and other researchers to consider the plausibility of the aggregative and dialectical approaches to explain the divergent findings. Second, because we are trying to compare motivation and learning from three different perspectives, we must carefully define how engagement should be measured from each perspective. This is pushing us to refine our methods for studying engaged participation—an admittedly challenging task. Fortunately, a decade of effort by instructional theorists guides our efforts. For example, Barab, Hay, and Yamagata-Lynch (2001) have refined a method known as CNA-RE (constructing networks of action-relevant episodes) that structures the process of identifying important interactions and building activity networks that represent the historical development of knowledge practices. CNA-RE yields graphical representations of learning events that consist of linked nodes representing issues, initiator, participant, practice, and resource. Links between nodes represent the evolution of knowledge across time and across individuals. Initial examples (e.g., Barab, Hay, Barnett, & Squire, 2001; Hay & Barab, 2001)

show how this method yields rich empirical evidence of domain-relevant knowledge being constructed in inquiry-oriented classroom environments.

My colleagues and I have just now begun using these methods to document (1) how standards and values associated with domain knowledge are constructed, (2) how standards and values associated with knowledge practices antagonistic to the domain knowledge practices are constructed, and (3) how both kinds of knowledge relate to engaged participation and marginal nonparticipation in the domain knowledge practices. In this research we are also exploring new digital video technologies that allow researchers to capture, compress, chunk, and code event-based data in real time. These technologies promise to massively streamline event-based research and transform the study of participation in classroom knowledge practices (Hay, Hickey, Elliot, Kim, & Hand, 2002). Particularly tantalizing is the elimination of both tape and transcripts from event-based research and the publication of an entire corpus of coded raw event-recording data on the world-wide web. This promises to allow other researchers to readily examine coded primary event data to reach an independent interpretation. Our ultimate vision is best captured within the knowledge exchange model proposed by Willinsky (1999).

To anchor reconciliation to the study of motivation in context, consider Turner's (2001, p. 99) suggestion that "until our theoretical understandings of motivation and persons in contexts develop further, it may be fruitful to try to integrate two powerful theories [cognitive goal theory and sociocultural discourse analysis] and use one to complement the other." To the extent that the stridently sociocultural model of engagement I have outlined here provides such theoretical understanding, such a complementary and aggregative approach to reconciliation is not likely to be as fruitful as the competitive and dialectical approach being advanced here.

Implications for Practice

The discussion so far has focused more on the practical implications that do not follow from sociocultural views of motivation. When viewed with a dialectical lens, the sociocultural perspective Greeno outlined is ultimately "agnostic" regarding the particular educational practices that should be adopted (see Greeno et al., 1998, p. 14). Prior behavioral and cognitive approaches to motivation advanced well-defined (but antithetical) principles of practice for motivating engagement in learning. Although I have alluded to some principles for motivating engaged participation, the perspective outlined here is just that—a perspective, a new way for understanding educational issues that have generally been referred to as "motivational." The agnosticism of this perspective lies in its fundamentally different way of characterizing knowledge, and therefore learning and engagement. This leads to new ways of characterizing prior approaches to instruction and new solutions to practical problems that may have eluded prior considerations.

General implications. In general, motivational strategies should address the sheer effectiveness of the many nonacademic communities of practice available to school learners. Educators should acknowledge the powerful behavioral reinforcements for participation in knowledge practices that are orthogonal or antithetical to the intended practices. The shortcomings of prevailing motivational practices from a sociocultural perspective are highlighted in Yowell and Smylie's (1999) critique of the "Just Say No" strategies of DARE (Drug Awareness Resistance Education). Yowell and Smylie argue that ignorance of the behavioral reinforcements for participation in undesirable practices is to blame for the widely acknowledged failure of these and other "cognitive" interventions. Their analysis suggests that motivational strategies that rely on intrinsic desire to make sense of academic content are outmatched by the reinforcements offered for partici-

pating in nonacademic knowledge practices. Many of the undesirable knowledge practices emerge in relatively intimate social communities. This offers participants a more obvious and direct trajectory from the periphery of a community to the center. Furthermore, some of the most undesirable practices (e.g., sex, drugs, risk taking) offer powerful visceral reinforcement. The relative appeal of undesirable practices is heightened by conventional curricular approaches that reduce domain knowledge practices to mastering numerous disconnected associations.

It is particularly important that efforts to improve engagement acknowledge the value of participation in desirable knowledge practices at different times in a particular community, as well as in different communities. For example, in introductory genetics, students are expected to participate fluently in activities that involve domain terminology (e.g., "homozygote") and tools (such as doing simple inheritance crosses "in the head"), as well as to understand concepts such as sex-linked inheritance and proportional reasoning. Successful strategies will motivate engaged participation in the most desirable of these practices in different contexts related to biology class (e.g., during lectures, homework, laboratory activities, classroom assessment, high-stakes assessment) and in different contexts altogether (e.g., using probabilistic reasoning in other science classrooms, using the terminology in language arts classes). This example helps clarify the relation between theory and practice being advanced. In this view, the researcher's primary concern is that students engage in desirable practices in a range of contexts; a theoretical explanation of why they engage is a secondary concern.

The notion of engaged participation highlights the motivational potential of curricular approaches that have been partly inspired by sociocultural views of knowing and learning. The most well known include Brown and Campione's (e.g., 1996) com-

munity of learners, Cognition and Technology Group at Vanderbilt's anchored instruction (e.g., CTGV, 1992, 1997), Bereiter and Scardamalia's intentional learning (1989), and Collins et al.'s (1989) cognitive apprenticeship. It is beyond my scope in this article to catalog numerous examples in the literature that show how these innovations support engaged participation in the knowledge practices associated with academic domains. By giving students the opportunity to participate legitimately in the coconstruction of desirable knowledge practices, these approaches give students an appealing alternative to participation in nonacademic knowledge practices. Given that many of their features have been advanced as supporting intrinsic motivation and self-regulation, the tendency to consider their motivational potential using conventional expectancy \times value or goal theory models is not surprising (e.g., Hickey, Moore, & Pellegrino, 2001). However, this neglects the ultimate value of these approaches and leads to violations of what Brown (1994) called "the first principles of practice." I hope the preceding analysis warrants the claim that the ultimate motivational value of such approaches is that they allow all students to participate meaningfully in the coconstruction of knowledge in academic domains—including the standards and values regarding that knowledge.

Specific implications for extrinsic rewards. The most specific practical implication of engaged participation concerns the use of extrinsic rewards. This perspective is neutral regarding the motivational appeal of such practices. Rather, the standards and values that motivate engagement are a function of the knowledge practices—they are a fundamental part of the constraints and affordances that define those practices. This means that tangible extrinsic rewards are neither inherently detrimental for learning (e.g., Kohn, 1993) or essential for some kinds of learning (e.g., Chance, 1992). Rather, the utility of such practices is con-

sidered in light of specific knowledge practices as they are coconstructed by students, teachers, policy makers, test developers, domain experts, and other participants in the development and use of those practices. In the case of motivating students to attain fluency by repeatedly rehearsing lower-level associations (e.g., phonics, arithmetic facts), it seems of little consequence that engagement in these practices will decline when the incentive is removed. Some of the new fluency will remain and be used (and likely further developed) in contexts for which the practice was originally constructed. Furthermore, such practices are wed to the constraints of formal classroom settings. This means that "meaningful" engagement in these practices is inherently illegitimate relative to the actual sociocultural context that gave rise to this knowledge. Therefore, the distortion in participation caused by rewards seems less likely to affect the legitimacy and meaningfulness of participation (with obvious exceptions such as cheating). In other words, learners never really had the opportunity to construct value around these practices in the first place. Therefore, the ego-protecting task disengagement that rewards can cause seems less likely.

In contrast, offering salient extrinsic rewards for participation in practices where value is constructed can lead to problematic distortions. Consider motivating language arts students to participate in the practice of writing creative essays. This activity presents many opportunities to coconstruct new knowledge and value for that knowledge. As such, a salient extrinsic reward (e.g., publishing the "best" essays in the school paper) may distort participation in such practices. Students who value such a reward but do not think they can succeed are likely to disengage. Conversely, such rewards might have positive consequences for the participation of some students (especially ones who think they have a chance and understand the criteria). The point is that one would have to examine collective participation to be sure

rather than merely judging the outcome or asking students to judge how motivated they were to engage.

Summary

The many arguments made in this article can be summarized in terms of the three core arguments advanced earlier. The first core argument concerns the assumption that learners internalize knowledge and values via participation in social interaction. This assumption has modest implications for achievement motivation, relative to more purely rationalist approaches that do not emphasize the role of social interaction. This assumption is consistent with Paris et al.'s (2001, p. 255) "second wave" or "sociocognitive" view of constructivism. Indeed, both "sociocognitive" and "socioconstructive" seem to be appropriate labels for these more modest applications of social perspective theories. These perspectives build on new understanding of how identity and values are influenced by social interaction but maintain an acquisitory view of knowing and learning. As such, these perspectives keep the identity, standards, and values that motivate engagement squarely within the individual.

The second core argument concerns the additional assumption that using knowledge and values necessarily changes both. If this is the case, then both the knowledge and the value associated with that knowledge reside in the context of their use. As I have argued in some detail, this assumption has more profound implications for achievement motivation. Arguably, then, this more strident application of social perspective theories (which seems nicely captured by the term "sociocultural") represents the "third wave of constructivism." In this article I have attempted to show how this assumption supports a distinct, participatory view of knowing, learning, and engagement. Examples illustrated how this view leads to new and potentially useful ways of characterizing engagement and un-

derstanding how it is affected by instructional and motivational practices.

The potential implications of a sociocultural view of engagement are further highlighted by this article's third core argument. The argument concerns the assumption that all participation in knowledgeable activity (including solitary activity) involves using—and therefore contributing to or otherwise changing—socially defined knowledge and values. This assumption argues against the characterization of socioculturally inspired curricular approaches as group learning processes designed to support intrinsic motivation and self-regulation. Rather, all learning, solitary or collaborative, is presumed to occur in a zone of proximal development, where individuals are participating in some meaningful activity more successfully than they could otherwise. This assumption seems to have potential for understanding and enhancing engagement and learning in all conceivable types of learning environments.

It remains to be seen whether researchers' collective efforts to broaden achievement motivation will "catch" this third wave. This initial foray has likely raised more questions than it has answered, and the relevance of these questions remains open to debate. I hope that the considerations presented here will help move such a discussion forward.

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